

DIRK AHRENS^(*)

NEW SPECIES OF THE GENUS *MICROSERICA* BRENSKE,
1894 FROM SUMATRA AND MALAY PENINSULA,
WITH NOTES ON SYNONYMY

(COLEOPTERA, SCARABAEIDAE, SERICINI)

In the framework of a revision of the genus *Microserica* Brenske, 1894 types and additional material of South-East Asian species have been examined. First results of the studies are published by AHRENS (2000), further information on morphology, distribution, and synonymy of the species from Sumatra and Malay Peninsula are presented in this paper, where a few taxa are newly described.

Abbreviations of depositories:

BMNH	The Natural History Museum, London
BPBM	Bernice P. Bishop Museum, Hawaii
CA	coll. D. Ahrens, Eberswalde
CABB	coll. A. Ballerio, Brescia
CF	coll. G. Frey (NHMB)
CN	coll. M. Nikodým, Praha
CP	coll. C. Pacholátko, Brno
CRSW	coll. R. Schuh, Wien
DEI	Deutsches Entomologisches Institut, Eberswalde
HNHM	Hungarian Natural History Museum, Budapest
MHNG	Muséum d'Histoire Naturelle, Genève
MMBC	Moravske Muzeum, Brno
MNHN	Muséum National d'Histoire Naturelle, Paris
MSNG	Museo Civico di Storia Naturale "Giacomo Doria", Genova
NHMB	Naturhistorisches Museum, Basel
NHMW	Naturhistorisches Museum, Wien
SMNS	Staatliches Museum für Naturkunde, Stuttgart

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SMTD	Staatliches Museum für Tierkunde, Dresden
ZMHB	Zoologisches Museum der Humboldt-Universität, Berlin
ZMUC	University of Copenhagen, Zoological Museum

***Microserica quadripustulata* Moser**

Microserica quadripustulata Moser, 1915: 386.

Microserica flavopicta Arrow, 1946: 271, **n. syn.**

Type material: Syntype (*quadripustulata*): 1 ♂ “Perak Malacca (Doherty) / Fry Coll. 1905.100./ *Microserica quadripustulata* type Mos.” (ZMHB). Syntypes: (*flavopicta*): 1 ♂ “Type/Perak m./ Doherty/ Fry Coll. 1905.100./ *Microserica flavopicta* type Arrow”, 1 ♀ “Perak m./ Doherty/ Fry Coll. 1905.100./ *Microserica flavopicta* cotype Arrow”, 1 ♂, 2 ♀♀ “Perak m./ Doherty/ Fry Coll. 1905.100.” (BMNH).

Additional material examined: 2 ex. “W. Malaysia: Perak; Maxwell Hill, 900-1000 m above Taiping city, 1995 J. & S. Becvar leg. 12.-16.I.” (CP), 1 ex. “Malaya: Perak Maxwell Hill 1350 m, 17.-20.III.58/ T. C. Maa Collector Bishop Mus.” (BPBM).

Aedeagus: Figs 1-2.

Notes. Types of *M. quadripustulata* Moser and *M. flavopicta* Arrow are identical in morphology of aedeagus and parameres.

***Microserica malaccensis* (Brenske)**

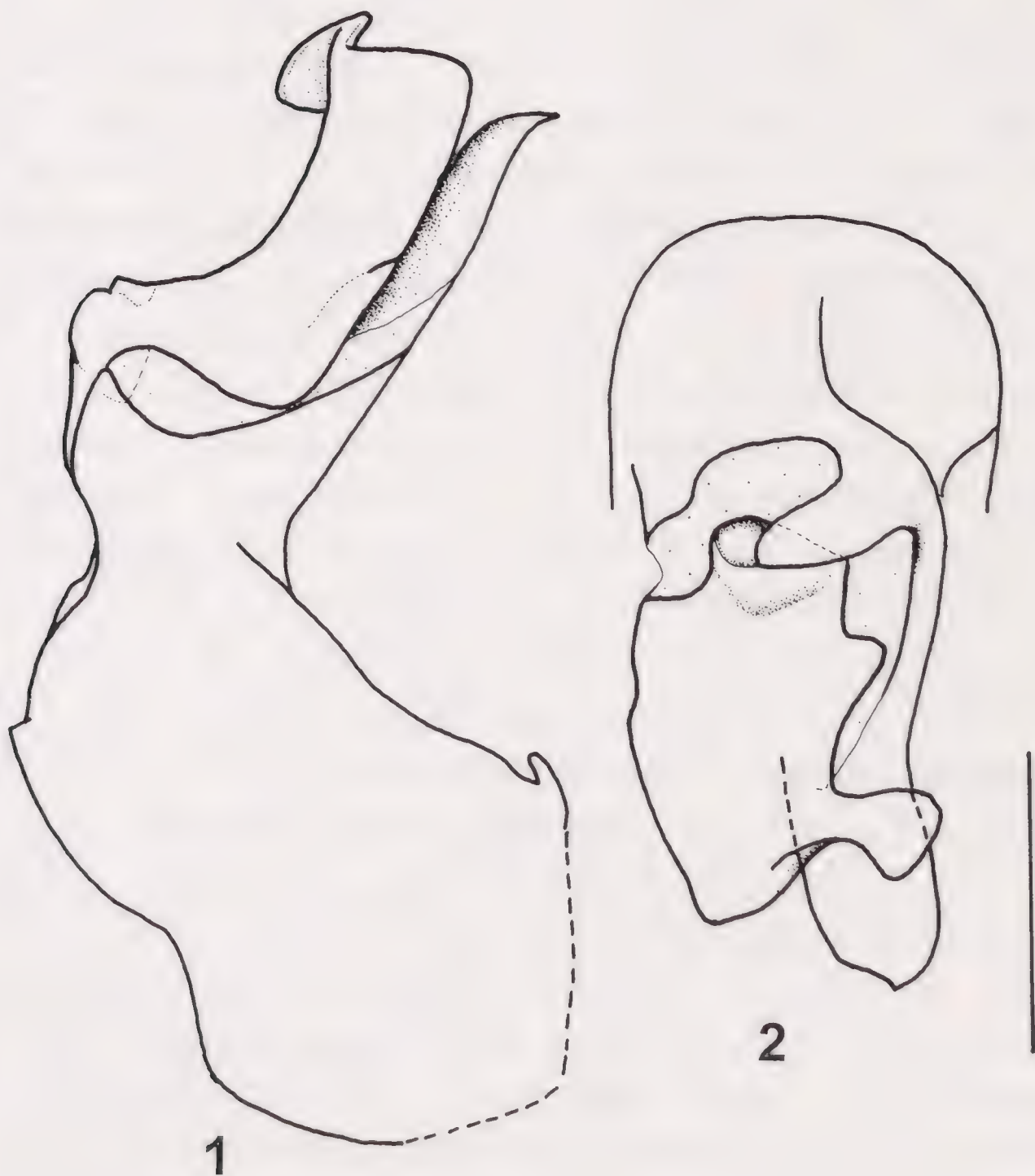
Serica malaccensis Brenske, 1893: 352.

Microserica malaccensis: Brenske 1898: 382, 404.

Type material: Syntypes: 1 ♂, 3 ♀♀ “Malakka Perak” (ZMHB).

Additional material examined: 1 ex. (♀) “P. Pinang L. Fea/ Typus/ *Serica malaccensis* type vergl. Brsk.” (MSNG), 2 ex. “Malacca (Doherty)”, 3 ex. “Malacca Tengah Gebirge P. Zobris V.” (ZMHB), 1 ex. “Malacca” (SMTD), 1 ex. “Perak” (SMTD), 1 ex. “Penang IV-`97 Curtis” (SMTD), 2 ex. “Pulo Penang/ Mus. Westerm.” (ZMUC), 1 ex. “Malaysia 1992 leg. Schillhammer/ Prov. Pahang (16) Fraser Hill 1250

m 6.-11.2. Licht" (NHMW), 6 ex. "Pahang F. M. S. Cameron Highlands 3500-4500 ft. May 15, 1939" (BMNH), 1 ex. "Malaya Selangor F. M. S. Ulu Langat 26. Dec. 1938" (BMNH), 1 ex. "Malay Penin. Cameron Highlands 1.11.1943" (BMNH), 1 ex. "G 1406 Malaya Ulu Sali Ro 10.1.1935" (BMNH), 1 ex. "on buds of *Rosa* sp. Malay peninsula 6.12.31 Cameron Highlands G. H. Corbett Perak" (BMNH), 1 ex. "Malaysia Cameroon Hills 22.-30.III.1984 Rougemount" (MHNG), 1 ex. "W. Malaysia Pahang Gombak 1.IV.93 Löbl & Calame on Agaricales ♀ 25b" (MHNG), 1 ex. "Malaisie Taiping IV.79 K. C. Liew"



Figs. 1-2: *Microserica quadripustulata* Moser (Syntypus: Perak, Malacca), 1- aedeagus lateral view, 2- parameres dorsal view (scale: 0.5 mm).

(MHNG), 1 ex. "Thailand, 1.2.1991 Banglang Nat. Park/ Than to Waterfall Than to Dist. 150 m P. Schwendinger" (MHNG), 1 ex. (♀) "Malaysia Pahang Cameron Highlands Tanah Rata/ singled in and around the town, No. 73 21-30.III.1995 O. Merkl", 1 ex. "Malaysia Pahang Cameron Highlands, Robinson Falls, montane rainforest/ swept & beaten No. 81, 24.III.1995 O. Merkl" (HNHM), 1 ex. "Muséum Paris 1906 coll. Léon Fairmaire/ Singapor/ *malaccensis* Brsk." (MNHN), 4 ex. "Malaysia; W. Pahang, Cameron Highlands; 1999 Tanah Rata, 1500-1800 m P. Pacholátko leg. 7.-9.i." (CP), 4 ex. "Malaysia; W. Pahang, Cameron Highlands; 1999 Tanah Rata, 1500-1800 m P. Pacholátko leg. 22.-26.i." (CP), 3 ex. "Malaysia: Benom Mts. 15 km E Kampong Dong; 700 m 3,53N 102,01E 1998 Dembicky & Pacholátko leg." (CP), 1 ex. "Malaysia. W. Perak 25 km NE of Ipoh, 1200 m Banjaran Titi Wangsa mts. Korbu mts. 27.I.-2.II.1999 P. Pacholátko leg." (CP), 1 ex. "Malaysia: Perak Kuala Woh 10 km NE Tapah 1.8.1993 leg. Schuh" (CRSW), 1 ex. "Malaysia: Selangor, Fraser Hill, Umgeb. Gap, 900 m 12.-15.8.1993 lg. Schuh" (CRSW), 1 ex. "Penang" (MNHN), 1 ex. "Thailand: Trang Prov., Khaophappa Khaochang, 200-400 m 13.I.1964/ G. A. Samuelson Collector Bishop" (BPBM), 1 ex. (♂) "Camboja/ Ex Museo H. W. Bates 1892/ Feae var. Type Brsk./ Muséum Paris Ex Coll. Oberthür/ Type" (MNHN), 1 ex. "E. Thailand, 5.-13.5. Chanthaburi Dist. Khao Soi Dao, 1998 J. Horak leg." (CP), 1 ex. "W-Malaysia: E Taiping, 500-800 m V.-VI.1978 leg. H. Knorr" (SMNS), 3 ex. (♀) "W Malaysia- Pahang Cameron Highlands Tanah Rata env. 1500 m 13.-20.VI.1999 leg. A. Ballerio" (CABB), 1 ex. "W. Malaysia-Kelantan 30 km N of Tanah Rata mt. 800 17-19.IV.1999 Leg. A. Ballerio" (CA), 2 ex. "Malaysia-Perak Banjaren Bintang, Bukit Berapit (Taiping) 11.-12.3.1997 Dulik & Jeniš leg." (CP), 1 ex. "S Thailand, Betong Gunung Cang dun vill. Yala dist., 25.3.-22.4.1993 J. Horak leg." (CP), 2 ex. "Malaysia W Ipoh, 5 km E Taiping Rambutan, 3.-15.IV. leg. M. Snizek 2000" (CP), 2 ex. "Malaysia W 27.3.-1.4. Cameron Highlands Ringlet env. lgt. M. Snizek 2000" (CP), 2 ex. "Malaysia, Pahang, 2000 Cameron Highlands, 1600 m, Tanah Rata 11.-27.2. P. Pacholátko leg." (CP), 1 ex. "Malaysia-Perak Cameron Highlands Tanah Rata 13.-17.2.1997 Dulik & Jenis leg." (CP), 2 ex. "Malaysia-Pahang Bukit Fraser 29.2.-6.3.2000 K. Deneš jun. lgt." (CP).

Aedeagus: Figs. 3-5.

Microserica larutensis n. sp.

Type material: Holotype: ♂ "Malaya Perak F. M. S. Larut Hills 1600 ft. 18.2.1938/ Ex. F. M. S. Museum B. M. 1955-354" (BMNH). Paratypes: 2 ♂♂, 3 ♀♀ "Malacca Perak W. Doherty/ Muséum Paris ex. Coll. R. Oberthür" (MNHN, CA).

Length: 5.7 mm, length of elytra: 3.6-4.0 mm, width: 3.4-3.8 mm. Body oval, black, partly with greenish lustre, anterior half of elytra reddish brown, antenna brown or black, dorsal surface, except shiny labroclypeus and tibia, dull and glabrous.

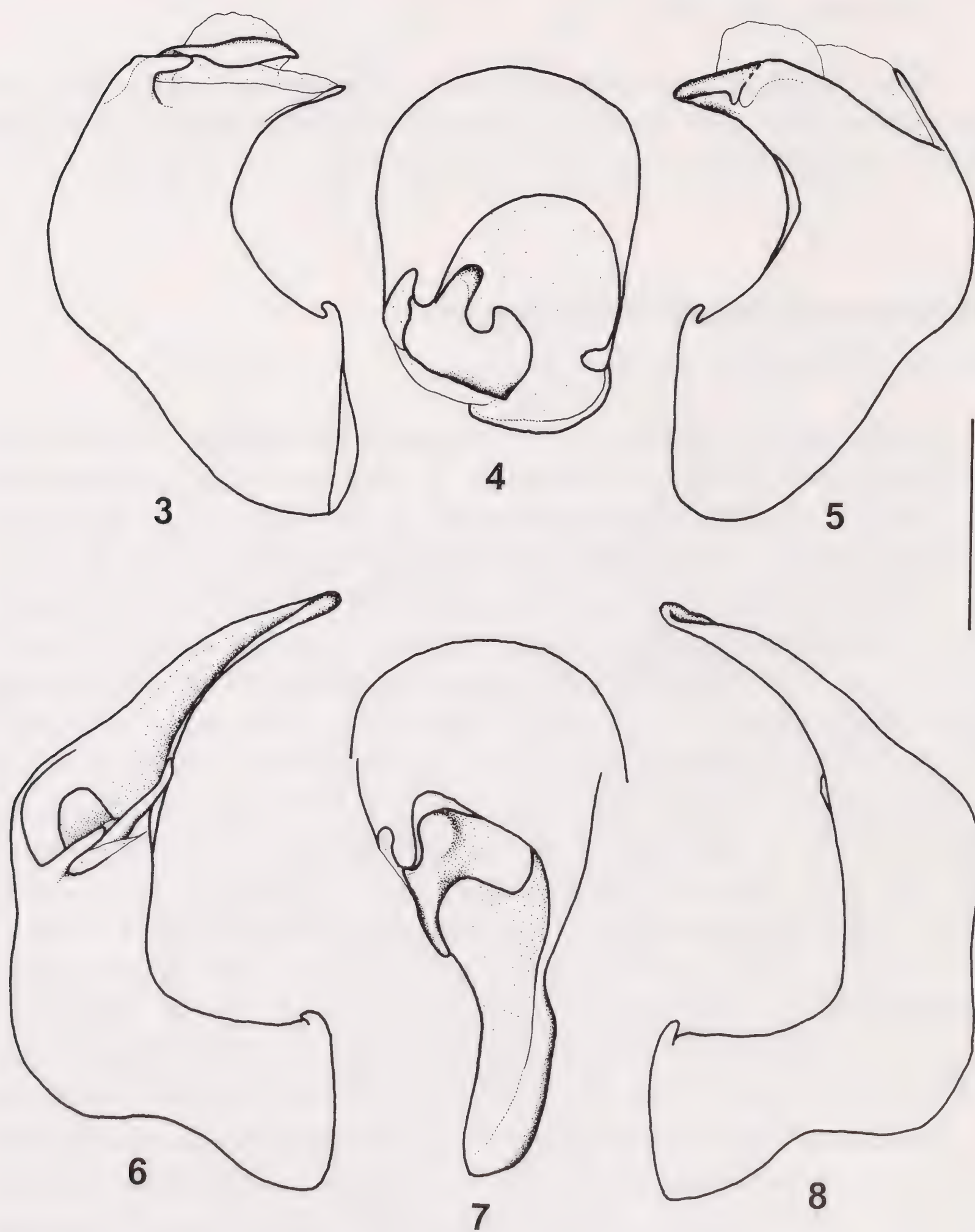
Labroclypeus moderately broad, transversely trapezoidal, widest at base, lateral margins straight and moderately convergent to strongly rounded anterior angles, lateral border and ocular canthus producing a blunt angle, margins moderately reflexed, anterior border almost straight; surface flat and little shiny, basally dull, with coarse and sparsely scattered punctures bearing erect robust hairs, between coarse punctures with very fine and moderately dense punctures; frontoclypeal suture very indistinctly incised and weakly curved medially; smooth area in front of eye approximately a little wider than long; ocular canthus short and broad, smooth, apically with one hair. Frons with fine and dense punctures, microscopically hairy, beside eyes and behind frontoclypeal suture a few single long hairs. Eyes small, ratio of diameter/ interocular width: 0.52. Antenna 10-segmented; club in male with five segments, as long as the remaining segments together (♂), all segments of the club of the same length, in female antennal club with three segments and a little shorter than the remaining segments combined. Mentum anteriorly elevated and flattened, anterior margin densely hairy.

Pronotum in male narrow and trapezoidal, widest at base, lateral borders almost straight, strongly convergent anteriorly, anterior angles weakly protruding but very sharp, posterior angle moderately sharp, anterior margin weakly convexly produced medially and with a fine marginal line; surface finely and densely punctate, with microscopic hairs in the punctures, anteriorly beside anterior angles few strong hairs; anterior and lateral margins sparsely setose; hypomeron distinctly edged, basally strongly produced and transversely grooved, its basal border producing with that of pronotum a rounded angle. Scutellum black and large, triangular, densely and finely punctate, with microscopic hairs in the punctures.

Elytra moderately long, widest shortly behind middle, Epipleura, sutural interval and shoulder black, anterior half reddish brown, striae weakly impressed, finely and not densely punctate, intervals weakly convex, with fine and dense punctures concentrated beside striae, punctures only microscopically hairy; epipleural edge fine, ending at strongly curved external apical angle of elytra, epipleura not densely setose, apical border chitinous, without microtrichomes.

Ventral surface dull, finely and not densely punctate, sparsely hairy, metacoxal plates only laterally with a number of longer hairs; each abdominal sternite with a transversal row of coarse punctures bearing long hairs between very fine and dense punctation, punctures of transversal row on second sternite very dense and hairs only very short, penultimate sternite apically with only very narrow smooth chitinous border. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/ metacoxae: 1/ 2.0, posterior angle of metacoxal plates moderately rounded. Pygidium in male dull and weakly convex, finely and moderately densely punctate, with microscopic hairs in the punctures, without smooth midline, only beside apical margin with a few long hairs, in female pygidium moderately shiny.

Legs moderately slender; femora dull, mesofemur with two longitudinal rows of hairs, metafemur dull, anteriorly sharply edged, behind anterior edge without serrated line, longitudinal rows of hairs reduced, anterior completely lacking, posterior one consisting only of four single hairs, surface moderately coarse and not densely punctate, posterior margin feebly convex and glabrous, neither dorsally nor ventrally serrated, dorsoapically widely produced. Metatibia moderately slender and not long, widest at middle, basally and apically narrowed, ratio of width/ length: 1/ 3.5, dorsal margin longitudinally rounded, not edged, with two groups of spines, basal one at one third, apical one at two third of metatibial length, basally only with two very short and indistinct hairs; outside longitudinally convex, with moderately dense and very fine punctures, partly microscopically hairy; ventral edge with four strong, very long hairs; inside completely smooth, apex interiorly near tarsal articulation shallowly concavely truncate. Tarsal segments dorsally impunctate, ventrally with sparse, short setae; metatarsal segments ventrally with a strongly serrated ridge and completely glabrous, immediately beside it with a moderate longitudinal edge, first metatarsomer a little shorter than the two following segments combined and of same length as the upper tibial spur. Protibia short,



Figs. 3-8: 3-5: *Microserica malaccensis* Brenske (Malacca, Tengak Gebirge), 6-8: *M. larutensis* n. sp. (Holotypus: Malaya, Larut Hills); 3, 5, 6, 8- aedeagus lateral view, 4, 7- parameres dorsal view (scale: 0.5 mm).

bidentate, external teeth small; all claws symmetrical, strongly curved and moderately long.

Aedeagus: Figs. 6-8.

Notes. Sides of pronotum in female are slightly convex. The species differs from very similar *M. malaccensis* (Brenske) by particular shape of pronotum in male and by morphology of aedeagus.

***Microserica pyrrhopoecila* Brenske**

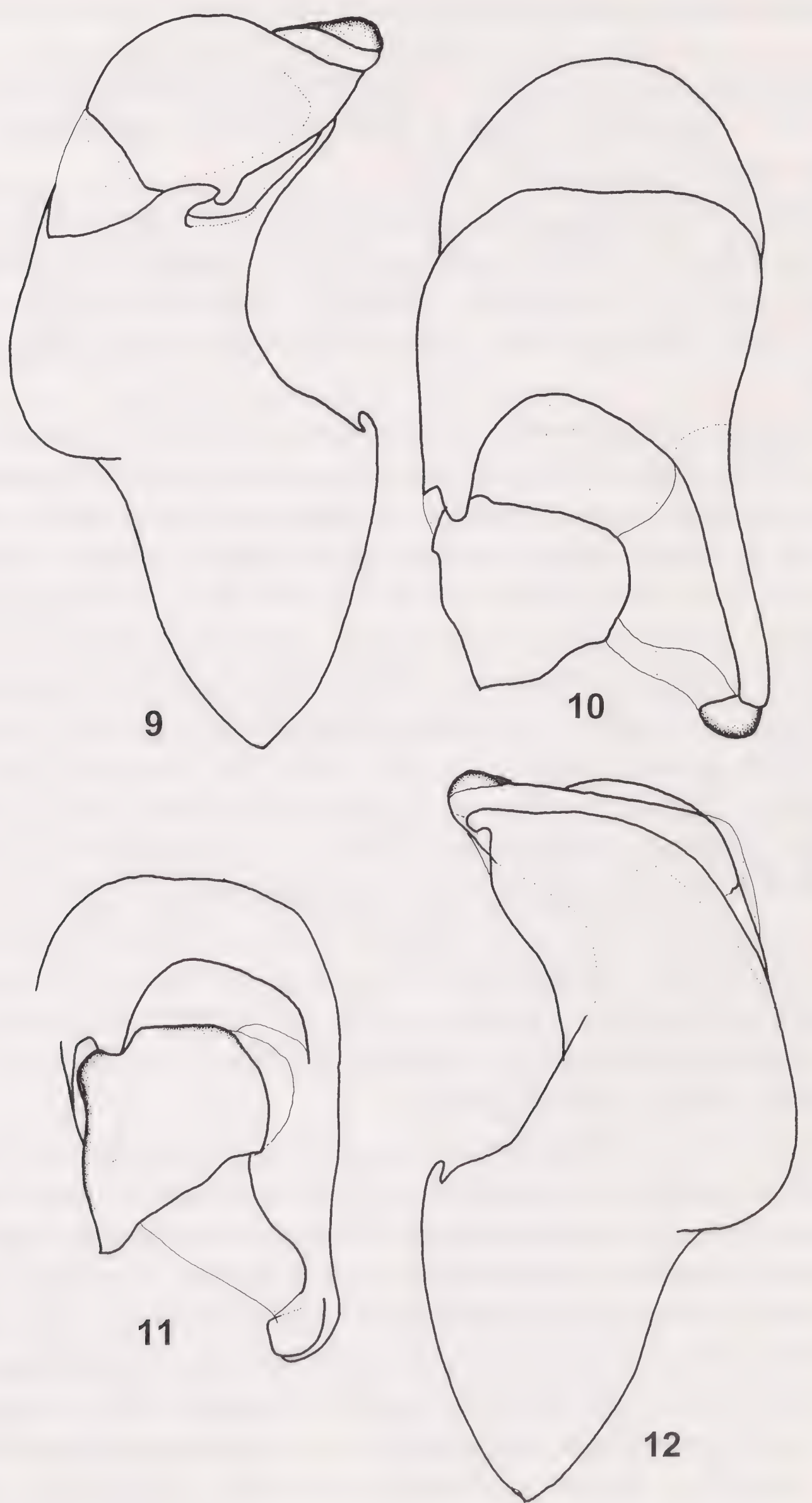
Microserica pyrrhopoecila Brenske, 1899: 171.

Type material Lectotype: ♂ "Sumatra Si-Rambé XII.90-III.91 E. Modigliani/ *Serica pyrrhopoecila* ♂ type Brsk./ a./ *pyrrhopoecila a* ♂ Brsk." (MSNG). Paralectotypen: 4 ♂♂ "Sumatra Si-Rambé XII.90-III.91 E. Modigliani/ *pyrrhopoecila* ♂ type Brsk./ coll. Brenske" (ZMHB, DEI), 1 ♂ "Sumatra Si-Rambé XII.90-III.91 E. Modigliani/ *Serica pyrrhopoecila* ♂ type Brsk./ b./ *pyrrhopoecila b* ♂ Brsk." (MSNG), 2 ♂♂ "Sumatra Si-Rambé XII.90-III.91 E. Modigliani/ *Serica pyrrhopoecila* ♂ type Brsk." (MSNG), 1 ♀ "Sumatra Si-Rambé XII.90-III.91 E. Modigliani/ *Serica pyrrhopoecila* ♀ type Brsk./ a./ *pyrrhopoecila a* ♀ Brsk." (MSNG), 8 ♂♂, 2 ♀♀ "Sumatra Si-Rambé XII.90-III.91 E. Modigliani/ *Serica pyrrhopoecila* [♂/♀] type Brsk." (MSNG), 1 ♂ "Sumatra Pangherang-Pisang X.90 e III.91 E. Modigliani/ *Serica pyrrhopoecila* ♂ type Brsk./ d./ *pyrrhopoecila d* ♂ Brsk." (MSNG), 1 ♂ "Sumatra Si-Rambé XII.90-III.91 E. Modigliani/ *Serica pyrrhopoecila* ♂ type Brsk./ c./ *pyrrhopoecila c* ♂ Brsk." (MSNG), 3 ♂♂, 1 ♀ "Sumatra Si-Rambé XII.90-III.91 E. Modigliani/ *Serica pyrrhopoecila* ♂ type Brsk./ Coll. C. Felsche Kauf 20, 1918" (SMTD).

Additional material examined: 3 ex. "Sumatra Si-Rambé XII.90-III.91 E. Modigliani" (MSNG), 1 ex. "Medan Doloc Baros Estate Sumatra" (ZMHB), 2 ex. "Sumatra Brastagi" (ZMHB), 1 ex. "Corporaal Ran Rakit 2-1918/ 1922-5" (SMTD), 2 ex. "N-Sumatra 16.8.1992 Brastagi Sikulikap" (CA).

Aedeagus: Figs 9-12.

Notes. The type series contained more than only one species, consequently it was necessary to select a lectotype.



Figs. 9-12: *Microserica pyrrhopoecila* Brenske, (Lectotypus: Sumatra, Si-Rambé); 9, 12- aedeagus lateral view, 10, 11- parameres dorsal view (scale: 0.5 mm).

Microserica beccarii n. sp.

Type material: Holotype: ♂ "Sumatra Mt. Singalang Luglio 1878 O. Beccari/ *pyrrhopoecila* Type ♂ Brsk." (MSNG). Paratypes: 2 ♂ ♂ - same data as holotype (MSNG, CA).

Length: 6.0-6.1 mm, length of elytra: 4.0-4.1 mm, width: 3.7 mm. Body oval, dark or reddish brown, partly with greenish lustre, elytra with two more or less distinct yellowish transversal bands, antenna brown, dorsal surface, except shiny labroclypeus and tibia, dull and glabrous.

Labroclypeus moderately broad, transversely rectangular, widest at base, lateral margins slightly curved and moderately convergent to strongly rounded anterior angles, lateral border and ocular canthus producing a blunt angle, margins moderately reflexed, anteriorly moderately sinuate medially; surface flat and shiny, basally dull, with moderately coarse and dense punctures, with only a few single robust hairs; frontoclypeal suture feebly incised and weakly curved medially; smooth area in front of eye approximately as wide as long; ocular canthus short and moderately broad, with a few fine punctures and a terminal hair. Frons with fine and moderately dense, very superficial punctures, with fine microscopic hairs in the punctures, beside eyes and behind frontoclypeal suture a few single long hairs. Eyes small, ratio of diameter/ interocular width: 0.48. Antenna 10-segmented; club (♂) with seven segments, almost twice as long as the remaining segments together, first segment of club a little shorter than the club, third antennal segment long. Mentum anteriorly elevated and flattened, anterior margin densely hairy.

Pronotum moderately transverse, widest at base, lateral borders in basal half subparallel, in anterior half convexly curved and distinctly convergent anteriorly, anterior angles strongly protruding and moderately sharp, posterior angle blunt, only weakly rounded, anterior margin weakly convexly produced medially and with a fine marginal line; surface finely and not densely punctate, with microscopic hairs in the punctures, anteriorly beside anterior angles few strong hairs; anterior and lateral margins sparsely setose; hypomeron distinctly edged. Scutellum slender, triangular, densely and finely punctate, with microscopic hairs in the punctures, at base smooth medially.

Elytra moderately long, widest behind middle, striae distinctly impressed, finely and not densely punctate, intervals strongly convex,

with fine and dense punctures along the striae, medially smooth, punctures only microscopically hairy; epipleural edge fine, ending at moderately curved external apical angle of elytra, epipleura not densely setose, apical border chitinous, without microtrichomes.

Ventral surface dull, finely and not densely punctate, sparsely hairy, metacoxal plates with a number of longer hairs only laterally; each abdominal sternite with a transversal row of coarse punctures bearing long hairs between very fine and dense punctation, penultimate sternite apically with only very narrow smooth chitinous border. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/ metacoxae: 1/ 1.56, posterior angle of metacoxal plates moderately rounded. Pygidium dull and weakly convex, finely and moderately densely punctate, with microscopic hairs in the punctures, without smooth midline, only beside apical margin with a few long hairs.

Legs moderately slender; femora dull, mesofemur with two longitudinal rows of hairs, metafemur with opaque tomentum, anteriorly sharply edged, behind anterior edge without serrated line, longitudinal rows reduced, only finely and very sparsely punctate, posterior margin feebly convex and glabrous, neither dorsally nor ventrally serrated, dorsoapically widely produced. Metatibia moderately slender and not long, subparallel, basally narrowed, ratio of width/ length: 1/ 3.7, dorsal margin longitudinally rounded, not edged, with two groups of spines, basal one at one third, apical one at two third of metatibial length, basally only with two very short indistinct hairs; outside longitudinally convex, with moderately dense and very fine punctures, partly microscopically hairy; ventral edge with three strong spines; inside completely smooth, apex interiorly near tarsal articulation shallowly concavely truncate. Tarsal segments dorsally impunctate, ventrally with sparse, short setae; metatarsal segments ventrally with a strongly serrated ridge and completely glabrous, immediately beside it with a moderate longitudinal edge, first metatarsomer a little shorter than the two following segments combined and about one fourth longer than the upper tibial spur. Protibia moderately long, bidentate, external teeth small; all claws symmetrical, strongly curved and moderately long.

Aedeagus: Figs 13-16.

Notes. Female unknown. *M. beccarii* n. sp. may be distinguished from the very similar *M. pyrrhopoecila* Brenske by the slenderer labro-

clypeus, the less sharply pointed anterior angles of pronotum, and little longer antennal club; the parameres differ significantly in shape. It is dedicated to its collector, Dr. Odoardo Beccari.

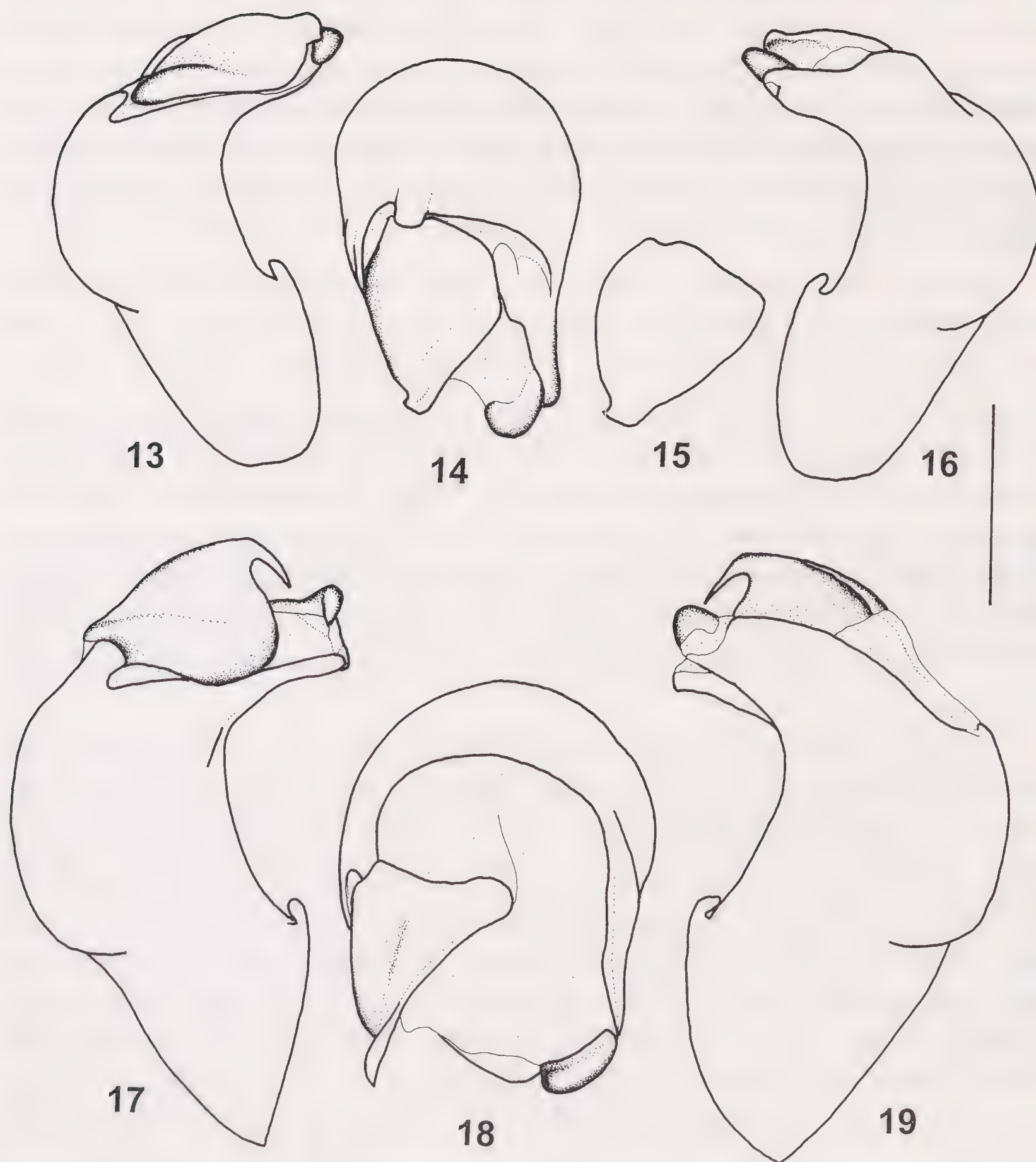
Microserica bifasciata n. sp.

Type material: Holotype: ♂ "Sumatra Drescher 4/ 1911 Matoer" (ZMHB). Paratype: 1 ♂ "W. Sumatra Padang 7.1994" (CA).

Length: 6.9 mm, length of elytra: 5.1 mm, width: 4.4 mm. Body oval, dark brown, partly with greenish or iridescent shine, pronotum and anterior third of elytra reddish brown, elytra with two more or less distinct yellowish transversal bands, antenna brown, dorsal surface, except shiny labroclypeus and tibia, dull and glabrous.

Labroclypeus moderately broad, transversely trapezoidal, widest at base, lateral margins slightly curved and moderately convergent to strongly rounded anterior angles, lateral border and ocular canthus producing a blunt angle, margins moderately reflexed, anteriorly moderately sinuate medially; surface flat and shiny, basally dull, with fine and moderately dense punctures, punctures anteriorly very superficial, only with a few single robust hairs; frontoclypeal suture feebly incised and weakly curved medially; smooth area in front of eye approximately as wide as long; ocular canthus short and moderately broad, with a few fine punctures and a terminal hair. Frons with fine and moderately dense, very superficial punctures, with fine microscopic hairs in the punctures, beside eyes and behind frontoclypeal suture with a few single long hairs. Eyes small, ratio of diameter/ interocular width: 0.44. Antenna 10-segmented; club with seven segments, 1.5 times as long as the remaining segments together (♂), first segment of club a little shorter than the club, third antennal segment long. Mentum anteriorly elevated and flattened, anterior margin densely hairy.

Pronotum moderately transverse, widest at base, lateral borders weakly but uniformly curved, weakly convergent anteriorly, anterior angles strongly protruding and moderately sharp, posterior angle blunt, only weakly rounded, anterior margin weakly convexly produced medially and with a fine marginal line; surface finely and not densely punctate, with microscopic hairs in the punctures, anteriorly beside anterior angles with a few strong hairs; anterior and lateral



Figs. 13-19: 13-16: *Microserica beccarii* n. sp. (Holotypus: Sumatra, Mt. Singalang), 17-19: *M. bifasciata* n. sp. (Holotypus: Sumatra, Matoer); 13, 16, 17, 19- aedeagus lateral view, 14, 18- parameres dorsal view, 15- left paramere, dorsal upright view (scale: 0.5 mm).

margins sparsely setose; hypomeron distinctly edged. Scutellum slender, triangular, densely and finely punctate, with microscopic hairs in the punctures.

Elytra moderately long, widest behind middle, striae distinctly impressed and finely and not densely punctate, intervals weakly convex, with fine and dense punctures concentrated beside striae, medially almost smooth, punctures only microscopically hairy; epipleural edge fine, ending at moderately curved external apical angle of elytra, epipleura not densely setose, apical border chitinous, without microtrichomes.

Ventral surface dull, finely and not densely punctate, sparsely hairy, metacoxal plates only laterally with a number of longer hairs; each abdominal sternite with a transversal row of coarse punctures bearing long hairs between very fine and dense punctation, penultimate sternite apically with only very narrow smooth chitinous border. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/ metacoxae: 1/ 1.77, posterior angle of metacoxal plates moderately rounded. Pygidium dull and weakly convex, finely and moderately densely punctate, with microscopic hairs in the punctures, without smooth midline, only beside apical margin with a few long hairs.

Legs moderately slender; femora dull, mesofemur with two longitudinal rows of hairs, metafemur with opaque tomentum, anteriorly sharply edged, behind anterior edge without serrated line, longitudinal rows of hairs reduced, anterior completely lacking, posterior one consisting only of four single hairs, surface moderately coarse and sparsely scattered punctate, posterior margin feebly convex and glabrous, neither dorsally nor ventrally serrated, dorsoapically widely produced. Metatibia moderately slender and not long, subparallel, basally narrowed, ratio of width/ length: 1/ 3.7, dorsal margin longitudinally rounded, not edged, with two groups of spines, basal one at one third, apical one at three fourth of metatibial length, basally only with two very short indistinct hairs; outside longitudinally convex, with moderately dense and very fine punctures, partly microscopically hairy; ventral edge with three strong spines; inside completely smooth, apex interiorly near tarsal articulation shallowly concavely truncate. Tarsal segments dorsally impunctate, ventrally with sparse, short setae; metatarsal segments ventrally with a strongly serrated ridge and completely glabrous, immediately beside it with a moderate longitu-

dinal edge, first metatarsomer a little shorter than the two following segments combined and about one fourth longer than the upper tibial spur. Protibia moderately long, bidentate, external teeth small; all claws symmetrical, strongly curved and moderately long.

Aedeagus: Figs 17-19.

Notes. Female unknown. Externally *M. bifasciata* n. sp. may be distinguished from the similar *M. pyrrhopoecila* Brenske, 1898 by the less dense punctuation of anterior labroclypeus and the less sharply pointed anterior angles of pronotum. The parameres differ significantly in shape.

***Microserica septemflabellata* Moser**

Microserica septemflabellata Moser, 1916: 171.

Type material: Syntypes: 2 ♂♂ "Sumatra Pangherang-Pisang X.90 e III.91 E. Modigliani/ coll. Brenske/ *pyrrhopoecila* var. type Brsk./ *Microserica 7-flabellata* Type Mos." (ZMHB), 1 ♂ "Sumatra Manna 1902 M. Knappert" (ZMHB).

Additional material examined: 1 ex. "Sumatra Pangherang-Pisang X.90 e III.91 E. Modigliani" (MSNG), 1 ex. (♂) "Habisan Sumatra Indonesia/ 30 April 1988 F. R. Wylie/ on foliage *Euc. urophylla* "Timaor/ Brazil"/ Sumatra C. I. E. A19801" (BMNH), 1 ex. (♂) "Sumatra Harau Valley January 1991, local collector" (CP), 1 ex. "E Sumatra: Riau prov.; Bukit Tigapuluh N.P.; 0°50'S 102°26'E; D. Hauck leg.; 18.-25.i.2000" (CP), 19 ex. "Malaysia W 27.3.-1.4. Cameron Highlands Ringlet env. lgt. M. Snizek 2000" (CP), 1 ex. "Malaysia: W. Perak; 25 km NE of Ipoh; 1200 m; Banjaran Titi Wangsa mts.; Korbu mts.; 27.i.-2.ii.1999 P. Pacholátko leg." (CP).

Aedeagus: Figs 20-22.

***Microserica lampungensis* n. sp.**

Type material: Holotype: ♂ "S Sumatra: Lampung prov.; Bukit Barisan Saletan N.P. 5°4'S, 104°4'E; + 600 m; 5 km SW Liwa; D.

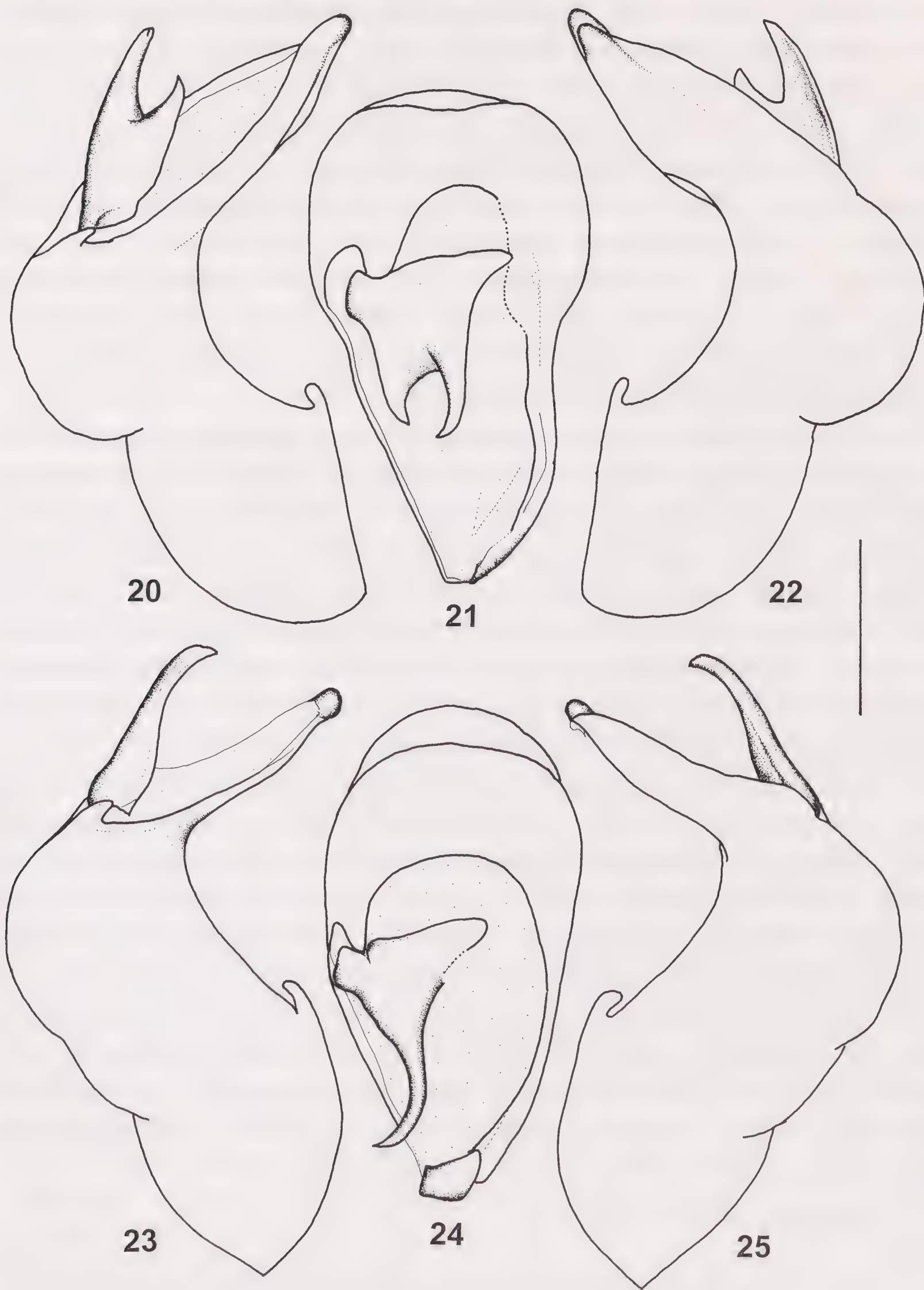
Hauck leg.; 7.-17.ii.2000" (MMBC via CP). Paratype: 1 ♂ - same data as holotype (CA).

Length: 5.8-6.4 mm, length of elytra: 3.6-3.9 mm, width: 3.3-3.6 mm. Body oval, dark or reddish brown, partly with greenish lustre, abdominal sternites, pygidium, sides of pronotum and elytra yellow, each elytron with two large yellowish transversal bands or dots, antenna brown, dorsal surface, except shiny labroclypeus and tibia, dull and glabrous.

Labroclypeus moderately broad, transversely rectangular, widest at base, lateral margins almost subparallel, rounded anterior strongly angles, lateral border and ocular canthus producing a blunt angle, margins moderately reflexed, anterior margin moderately sinuate medially; surface flat and shiny, basally dull, with moderately coarse and dense punctures, with only a few single robust hairs; frontoclypeal suture feebly incised and weakly curved medially; smooth area in front of eye approximately as wide as long; ocular canthus short and moderately broad, almost impunctate, with a terminal hair. Frons with fine and moderately dense punctures, with fine microscopic hairs in the punctures, beside eyes and behind frontoclypeal suture a few single long hairs. Eyes small, ratio of diameter/ interocular width: 0.46. Antenna 10-segmented; club with seven segments, almost twice as long as the remaining segments together (♂) and feebly reflexed, first segment of club a little shorter than the club, third antennal segment long. Mentum anteriorly elevated and flattened, anterior margin densely hairy.

Pronotum moderately transverse, widest at base, lateral borders moderately convexly curved and distinctly convergent anteriorly, anterior angles moderately produced and moderately sharp, posterior angle blunt, only weakly rounded, anterior margin weakly convexly produced medially and with a fine marginal line; surface finely and not densely punctate, with microscopic hairs in the punctures; anterior and lateral margins sparsely setose; hypomeron distinctly edged. Scutellum broadly triangular and dark, with fine and dense punctures, punctation less dense medially, with microscopic hairs in the punctures.

Elytra moderately long, widest in the middle, striae finely impressed and not densely punctate, intervals moderately convex, with fine and sparse punctures along the striae, medially smooth, punctures only microscopically hairy; epipleural edge fine, ending at moderately curved external apical angle of elytra, epipleura not densely setose, apical border chitinous, without microtrichomes.



Figs. 20-25: 20-22: *Microserica septemflabellata* Moser (Syntype: Sumatra, Pangharang-Pisang), 23-25: *M. lampungensis* n. sp. (Holotype: S. Sumatra, Lampung prov., Bukit Barisan Selatan N.P.), 20, 22, 23, 25- aedeagus lateral view, 21, 24- parameres dorsal view (scale: 0.5 mm).

Ventral surface dull, finely and not densely punctate, sparsely hairy, metacoxal plates only laterally with a number of longer hairs; each abdominal sternite with a transversal row of coarse punctures bearing long hairs between very fine and dense punctation, penultimate sternite apically with only very narrow smooth chitinous border. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/ metacoxae: 1/ 1.78, posterior angle of metacoxal plates moderately rounded. Pygidium yellow, with dark margin, shiny and moderately convex, coarsely and densely punctate, with microscopic hairs in the punctures, without smooth midline, only beside apical margin with a few long hairs.

Legs moderately slender; mesofemur with two longitudinal rows of hairs, metafemur shiny, anteriorly sharply edged, behind anterior edge without serrated line, longitudinal rows reduced, only finely and very sparsely punctate, posterior margin feebly convex and glabrous, neither dorsally nor ventrally serrated, dorsoapically widely produced. Metatibia moderately slender and not long, subparallel, basally narrowed, ratio of width/ length: 1/ 3.25, dorsal margin longitudinally rounded, not edged, with two groups of spines, basal one at one third, apical one at two third of metatibial length, basally only with two very short indistinct hairs; outside longitudinally convex, with sparse and very fine punctures, partly microscopically hairy; ventral edge with three strong equidistant spines; inside completely smooth, apex anteriorly near tarsal articulation shallowly concavely truncate. Tarsal segments dorsally impunctate, ventrally with sparse, short setae; metatarsal segments ventrally with a strongly serrated ridge and completely glabrous, immediately beside it with a moderate longitudinal edge, first metatarsomer as long as the two following segments combined and about one fourth longer than the upper tibial spur. Protibia moderately long, bidentate, external teeth small; all claws symmetrical, strongly curved and moderately long.

Aedeagus: Figs 23-25.

Notes. Female unknown. Compared to *M. septemflabellata* Moser, *M. lampungensis* n. sp. has a slenderer labroclypeus with subparallel lateral margins. The two species may easily be separated by characters of the male genitalia.

***Microserica compressipes* (Wiedemann)**

Melolontha compressipes Wiedemann, 1823: 91.

Microserica compressipes: Brenske, 1899: 186.

Microserica compressipes var. *tjibodasia* Brenske, 1899: 186.

Microserica compressipes var. *unicolor* Brenske, 1899: 186.

Microserica brenskiei Reitter, 1896: 186, **n. syn.**

Microserica pulchella Brenske, 1899: 161, **n. syn.**

Microserica leopoldiana Balthasar, 1932: 113, **n. syn.**

Type material Lectotype (*compressipes*, here designated): ♂ “Westermann/ Java Septbr. 1814 *compressipes* Wied.” (ZMUC). Paralectotype (*compressipes*): 1 ♂ “Westermann/ Java Septbr. 1814 *compressipes* Wied.” (ZMUC). Syntypes (*compressipes* var. *tjibodasia*): 1 ♂ “Tcibodas Giava Beccari 1874/ *compressipes* var. *tjibodasia* typ. Brsk./ Type/ *compressipes* var. *tjibodasia* Brsk.” (MSNG), 1 ♂, 1 ♀ “Tcibodas Giava Beccari 1874.X/ v. *tjibodasia* typ. Brsk.” (MSNG), 5 ♂♂ “Tcibodas Giava Beccari 1874.X” (MSNG), 17 ♂♂, 35 ♀♀ “Tcibodas Giava Beccari 8bre 1874” (MSNG). Syntypes (*pulchella*): 2 ♂♂, 5 ♀♀ “Sumatra Si-Rambé XII.90-III.91 E. Modigliani/ *pulchella* type Brsk.” (MSNG, DEI), 1 ♂, 1 ♀ “Sumatra Si-Rambé XII.90-III.91 E. Modigliani” (MSNG), 2 ♂♂ “Sumatra D. Tolong XI.1890 E. Modigliani/ *pulchella* type ♂ Brsk.” (MSNG), 3 ♂♂, 4 ♀♀ “Sumatra Lago Toba II & XI.1891 E. Modigliani/ *pulchella* type Brsk.” (MSNG), 1 ♂ “Sumatra Ajer Mantcior Agosto 1878 O. Beccari/ *pulchella* typ. ♂ Brsk./ coll. Brenske”, 1 ♂ “Sumatra Balighe/ coll. Brenske/ *pulchella* ♂ Brsk.”, 1 ♂ “Sumatra D. Tolong XI.1890 E. Modigliani/ coll. Brenske/ *Serica pulchella* type ♂ Brsk.”, 2 ♂♂, 5 ♀♀ “Sumatra Lago Toba II & XI. 1891 E. Modigliani/ *pulchella* typ. Brsk./ coll. Brenske” (DEI, ZMHB), 1 ♂ “Sumatra Pangherang-Pisang X.90-III.91 E. Modigliani/ *Serica pulchella* Type ♂ Br./ coll. Brenske” (ZMHB), 12 ♂♂, 2 ♀♀ “Soekaranda Januar 1894 Dohrn/ coll. Brenske” (ZMHB), 1 ♂, 2 ♀♀ “Sumatra Benculen IV.1891 E. Modigliani/ *pulchella* Typ. ♀ Brsk./ *pulchella* Brsk. ♀” (DEI, ZMHB, MSNG), 2 ♂♂, 5 ♀♀ “Sumatra Bali-ghe X.90-III.91 E. Modigliani/ *pulchella* typ.” (ZMHB, MSNG, DEI). Holotype (*brenskiei* Rtt.): ♂ “Jokohama Staudgr./ Holotypus/ n. sp. N° 15 Vaterland/ Brenske vid./ Lewis vid./ *Microserica brenskiei* m.” (DEI). Paratype (*leopoldiana*): 1 ♀ “Takengon (Sumatra) 9-V-1929 Prince Leopold/ Typus/ Dr. V. Balthasar det, 1931: *Microserica leopoldiana* n. sp./ Paratypoid” (CF).

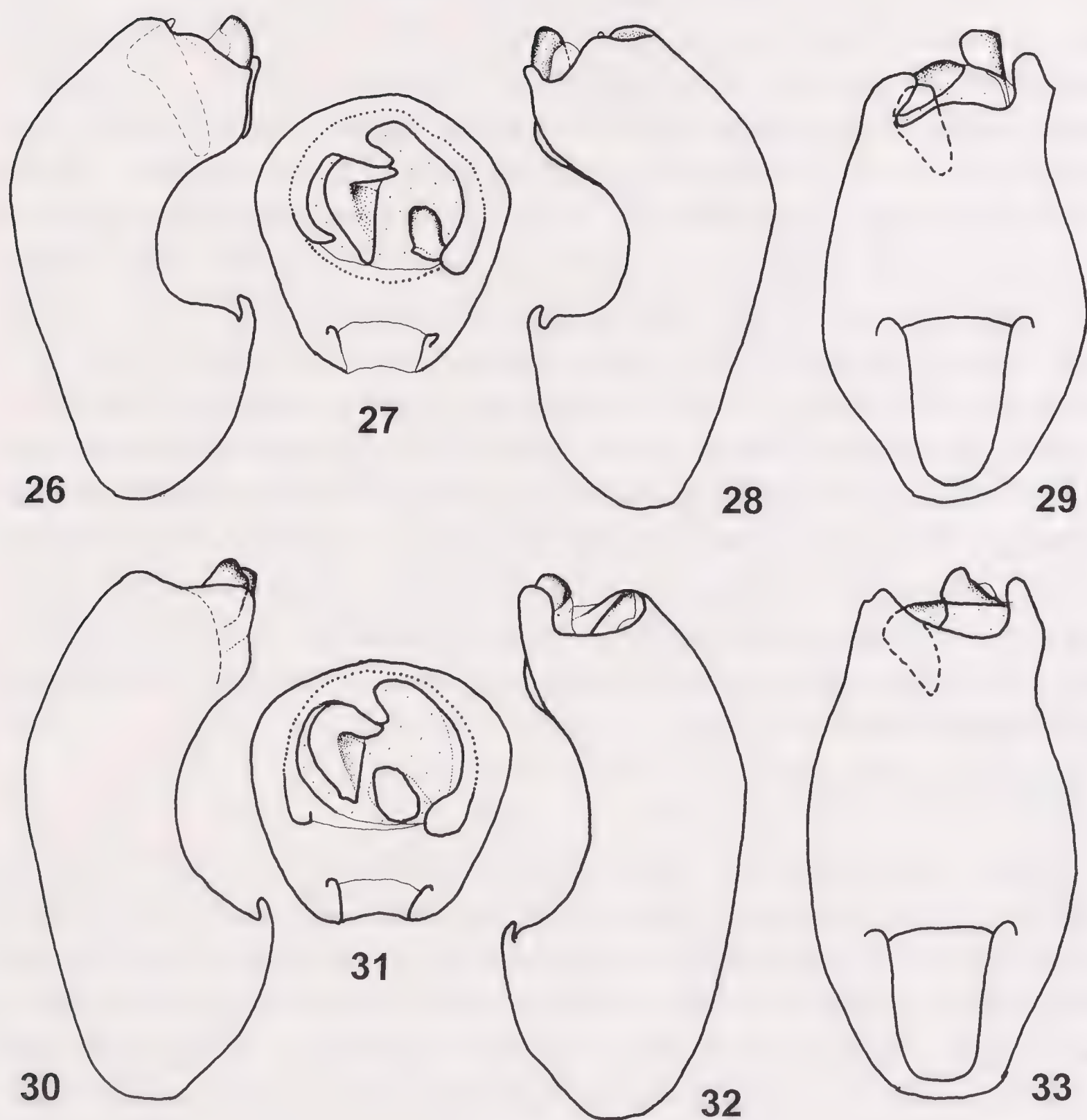
Additional material examined: Thailand: 3 ex. "NW Thai 17.-23.V.1991 Mae Hong Son Ban Huai Po 1600-2000 m J. Horák leg." (CP), 1 ex. "NW Thailand, 19.19N, 97.59E Mae Hong Son, 1991 Ban Huai Po, 1600-2000 m, 17.-23.5., L. Dembicky leg." (NHMW). Sumatra: 4 ex. "W-Sumatra Mt. Sago II/1991" (CN), 1 ex. "W-Sumatra Merapi Mt. III.1991" (CN), 4 ex. "Bedagei int. Sumatra's o.K. 600' 2. Sem. 89 I. Z. Kannegieter" (ZMHB), 2 ex. "Fort de Kock (Sumatra) 920 m April 1921 leg. E. Jacobson" (ZMHB), 2 ex. "Edw. Jacobson Lasikin, Sim. Sum. 4.1913" (ZMHB), 2 ex. "J. B. Corporaal Sumatra's O.-K. Brastagi 14-2-21 1300 m" (ZMHB), 2 ex. "J. B. Corporaal Sumatra's O.-K. Brastagi 15-5-21 1300 m" (ZMHB), 1 ex. "Sumatra" (ZMHB), 5 ex. "Medan Doloc Baros Estate Sumatra" (ZMHB), 3 ex. "Sumatra Medan" (ZMHB), 4 ex. "Sumatra Silbolangit" (ZMHB), 1 ex. "Sumatra Aceh Kuala Don b. Calang 20.-28.2.96 lg. Zorn", 8 ex. "I. N. Sumatra Brastagi 22-26.5.1991" (CA), 1 ex. "Indonesia: W-Java, Gunung Salak 6,43S 106,44E 1100 m S. Jakl leg. VII.1996" (CP), 1 ex. "Indonesia, Sumatra (Aceh) 20 km N Ronga Ronga 26. Feb. 1998 800 m L. Bocak lgt." (CP), 5 ex. "North Sumatra, Brastagi Sibayak 22.-25.V.1991 leg. Jiri Moravec" (CP), 5 ex. "Tandjong Morawa N.O. Sumatra/ Coll. Kraatz" (DEI), 2 ex. "Tombameer III. 1922 Damm" (DEI), 1 ex. "N. O. Sumatra Tebing tiggi Dr. Schultheiss/ Coll. Kraatz" (DEI), 1 ex. "*compressipes* Wd. Sumatra/ Mus. Hauschild 12-9-1914" (ZMUC), 10 ex. "Sumatra Klein" (ZMUC), 30 ex. "Holl. Indien (Sumatra?) Klein" (ZMUC), 2 ex. "Tibbing tingi/ Collectio Dr. Ohaus" (SMTD), 5 ex. "Sumatra Lago Toba II & XI. 1891 E. Modigliani/ Coll. C. Felsche Kauf 20, 1918/ *pulchella*" (SMTD), 5 ex. "Sumatra Si-Rambé XII.90-III.91 E. Modigliani" (SMTD), 7 ex. "Sumatra" (SMTD), 13 ex. "Indonesia, Aceh Is. Simalur Aer Pinang 17./ 18.II.84 2 m/ Sumatra-Reise 1984, leg. H. Urban, K. Urban, I. Worm, J. Wiesner" (NHMB), 2 ex. "Brastagi 27.IV.1982/ Sumatra R. Blaser" (NHMB), 1 ex. "Sumatra (Jambi), Gunung Kerinci, 1800-2100 m 6.-7.III.1991 Bocak & Bocakova lgt." (NHMB), 2 ex. "North Sumatra Ketambe env. 14.-16.iv.1998 lgt. Vit Kabourek" (CP), 14 ex. "North Sumatra Brastagi 76 km S from Medan 30.3.-1.4.1996 lgt. S. Becvar" (CP), 87 ex. "E Sumatra; Riau prov.; Bukit Tigapuluh N.P.; 0°50'S 102°26'E; D. Hauck leg.; 18.-25.i.2000" (CP). Java: 1 ♂ "Tcibodas Giava Beccari 1874.X/ *compressipes* var. b", 1 ♂ "Buitenzorg X.1874 Beccari" (die 2 Tiere nicht deutlich der *unicolor* o. *tjibodasia* zuzuordnen), 1 ♂, 4 ♀♀ "Tcibodas Giava Beccari 1874", 1 ex. "Java Fruh-

stfr./ *Microserica compressipes* Brsk. det.", 1 ♀ "Java Occ. Preanger T. Prao/ Lansb. 78" (MSNG), 12 ex. "Java occid. Fruhst./ Zool. Inst. Mus. Greifswald Coll. Gerstaecker" (Mus. Greifswald), 4 ex. "Java occident. Sucabumi 2000' 1893 H. Fruhstorfer/ Moser det." (DEI), 8 ex. "Java orient. Montes Tengger 4000' 1890 H. Fruhstorfer" (DEI), 10 ex. "Java/ Coll. Heyden" (DEI), ex. "Java occident. Mons Gede 4000' 1893 H. Fruhstorfer" (DEI), 3 ex. "Holländ. Indien" (DEI), 4 ex. "Java occident. Pengalengan 4000' 1893 H. Fruhstorfer/ Coll. Kraatz" (DEI), 1 ex. "I. B. Corporaal Java P.aenger-Tjigembong/ det. Moser *Microserica compressipes* Wied." (DEI), 1 ex. "Java Schönfeldt/ Brenske vid./ *compressipes* Wied." (DEI), 13 ex. "Java/ Mus. Hauschild 12-9-1914" (ZMUC), 1 ex. "Tjibodas Java/ J. Skovgaard Java" (ZMUC), 7 ex. "Java Tjib. Gédé Maj. 1904/ J. Skovgaard Java" (ZMUC), 31 ex. "Java J. Skovgaard" (ZMUC), 1 ex. "Java/ Coll. Jansen-Haarup" (ZMUC), 7 ex. "Java/ Collectio Ohaus" (SMTD), 5 ex. "Java 9179" (SMTD), 1 ex. "Java Samarang/ Aus Neppenthes Kannen/ 1922-3" (SMTD), 4 ex. "Tjibodas/ Coll. C. Felsche Kauf 20, 1918" (SMTD), 17 ex. "Java" (SMTD), 1 ex. "J. B. Corporaal Java Preanger Tjigembong/ 1922 5" (SMTD), 3 ex. "Java Batjang Mt. Gedeh 1100 m IX.-X.1919 R. Ratter cond." (NHMB). Bali: 5 ex. "Indonesien, Bali Denpasar V-VII 1981 leg. Wolfgang Barries" (CP).

Aedeagus: Figs 26-33.

Notes. No significant morphological differences in male genitalia could be found between types of *M. brenskiei*, *M. pulchella* und *M. compressipes*. The forms differ only in colour pattern, which Brenske (1899:161) used for separation between *M. pulchella* and *M. compressipes*, but the colouration is very variable. Specimens with colour pattern of typical *M. pulchella* have been recorded from Java, too. Since from genital morphology of different colour forms no significant evidence for separation of valid species could be derived, the species are here regarded as synonyms. The original description of "*Melolontha compressipes*" gave no information about the number of specimens on which the description was based. Consequently, it was necessary to fix the taxonomic status by designating a lectotype.

The description of *M. brenskiei* by Reitter (1896) is based on a specimen with erroneous locality label (?Yokyakarta = ?Yokohama/ Jokohama). The representatives of the *Microserica compressipes*-group occur, due to present knowledge, only in Indonesia. Aedeagus of



Figs. 26-33: *Microserica compressipes* (Wiedemann); 26-29: Syntype of *M. pulchella* Brsk.: Sumatra, Benculen, 30-33: specimen from Java compared with type of *M. compressipes* (Java occid., Sukabumi); 26, 28, 33, 35- aedeagus lateral view, 27, 34- parameres dorsal view, 29, 33- aedeagus ventral view (scale: 0.5 mm).

holotype of *M. brenskei* Reitter is identical with that of *M. compressipes*.

***Microserica ornata* (Nonfried)**

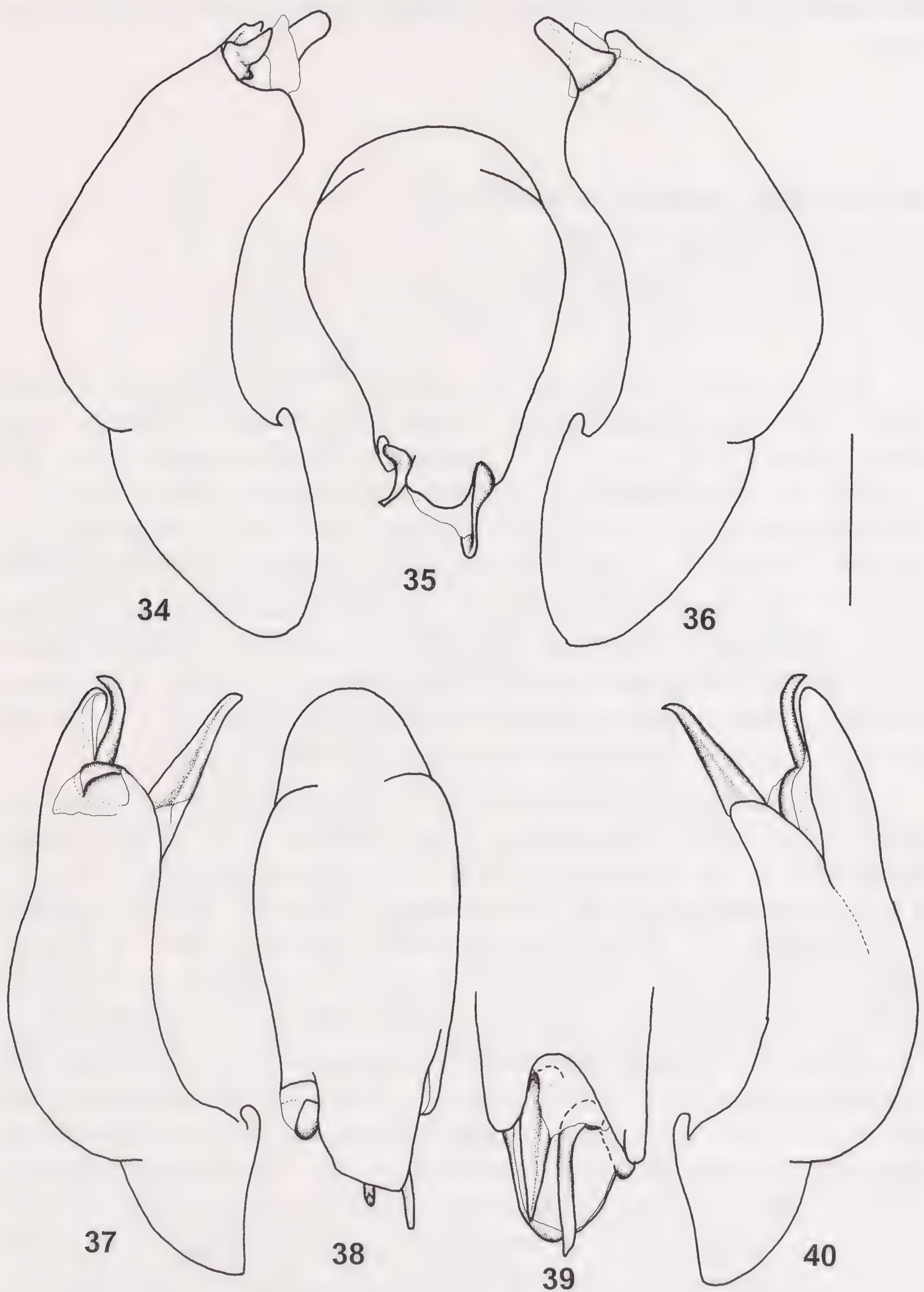
Serica ornata Nonfried, 1894: 202.

Microserica ornata: Brenske 1898: 403.

Microserica lineola Brenske, 1898: 402, **n. syn.**

Type material: Holotypus (*ornata*): ♂ “N.O. Sumatra Tebingtinggi Dr. Schultheiss/ *Serica ornata* Type Nonfr.” (ZMHB). Syntypes (*lineola*): 2 ♂♂, 1 ♀ “Sumatra Pangherang-Pisang X.90 e III.91 E. Modigliani”, 1 ♂ “Sumatra Siboga X.90 e III.91 E. Modigliani”(ZMHB), 1 ♂, 1 ♀ “Dohrn Sumatra Soekaranda/ coll. Brenske” (ZMHB), 3 ♂♂, 1 ♀ “Sumatra Pangherang-Pisang X.90 e III.91 E. Modigliani” (MSNG), 2 ♂♂ “Sumatra Pangherang-Pisang X.90 e III.91 E. Modigliani/ 136/ *Serica lineola* Brsk. n. sp.” (MSNG), 2 ♂♂ “Sumatra Siboga Aprile 1886 Modigliani” (MSNG), 1 ♂ “Sumatra Kaju Tanam Agosto e Sett. 1878 O. Beccari”(MSNG), 1 ♂ “Sumatra Ajer Mantcior Agosto 1878 O. Beccari” (MSNG).

Additional material examined: 4 ex. “Sumatra 800 m Padg. Pandjang 1. trim. 1896 / Kannegieter legit” (ZMHB), 1 ex. “J. B.Corporaal Sumatra’s O. K. Sibolangit 29.10.’21 550 m” (ZMHB), 2 ex. “J. B.Corporaal Sumatra’s O. K. Sibolangit 22.10.’21 550 m” (ZMHB), 3 ex. “Bedagei int. Sumatra’s O.K. 600 m 2de Sem. 89 I. Z. Kannegieter” (ZMHB), 1 ex. “Sumatra Lan Rakit” (ZMHB), 1 ex. “Sumatra Padang” (ZMHB), 5 ex. “Sumatra Boscha Bandar (?)” (ZMHB), 2 ex. “Pangkalan W. Sumatra Feb. 1990 H. Arimoto”(CA), 3 ex. “Indonesia Sumatra-Utara Umg. Aek Tarum ca. 50 km NO Pematang-Siantar 300 m 7.-9.I.95” (CA), 4 ex. “Indonesia Sumatra Barat Umg. Padang-Panjang 700-1000 m 21.-25.I.95”(CA), 1 ex. “W-Sumatra Pedang-Punjang 700 m 8.II.96 lg. Zorn”(CA), 3 ex. “Sumatra Barat Empat Feb. 94 leg. Widagdo”, 1 ex. “Sumatra North Berastagi 23.-27.5.1991 H. Cermak lgt.” (CA), 1 ex. “W.Sumatra Payakumbuh Sarilamak env. 15.-16.2.91 Jezevec lgt.” (CN), 12 ex. “W-Sumatra Mt. Sago II, III/ 91” (CN), 3 ex. “I.-W. Sumatra 600 m Paykumbuh 6-10.1.1991 Harau vill. env. St. Jakl lgt.” (CN), 2 ex. “I-W. Sumatra 1991 Pangalan 4-10.2. St. Jakl lgt. 1300 m” (CN), 4 ex. “Sumatra Harau Vallay January 1991



Figs. 34-40: 34-36: *Microserica ornata* (Nonfried) (Holotype: Sumatra, Tebing tiggi), 37-40: *M. nuda* n. sp. (Holotype: Sumatra, Padang); 34, 36, 37, 40- aedeagus lateral view, 35, 38- parameres dorsal view, 39- parameres ventral view (scale: 0.5 mm).

local collector" (CP), 3 ex. "Bukittinggi 7.1.94 Sumatra leg. Kondler" (CP), 2 ex. N. Sumatra IV.1991 Marapi Local collector" (CP).

Aedeagus: Figs 34-36.

Notes. Head and thorax of holotype (♂) of *Microserica ornata* (Nonfried) were lost. Later on, they were replaced by head and thorax of another *Microserica* species (♀, club 3-segmented and short). The aedeagus of holotype (♂) of *Microserica ornata* (Nonfried) is identical with that of syntypes of *M. lineola* Brenske.

***Microserica agraria* Brenske**

Microserica agraria Brenske, 1898: 444.

Type material: Syntypes: 1 ♂, 1 ♀ "Sumatra Pangherang-Pisang X.90 e III.91 E. Modigliani/ *Serica agraria* Type Brsk./ *agraria* Brsk." (MSNG).

Aedeagus: Figs 41-43.

***Microserica n u d a* n. sp.**

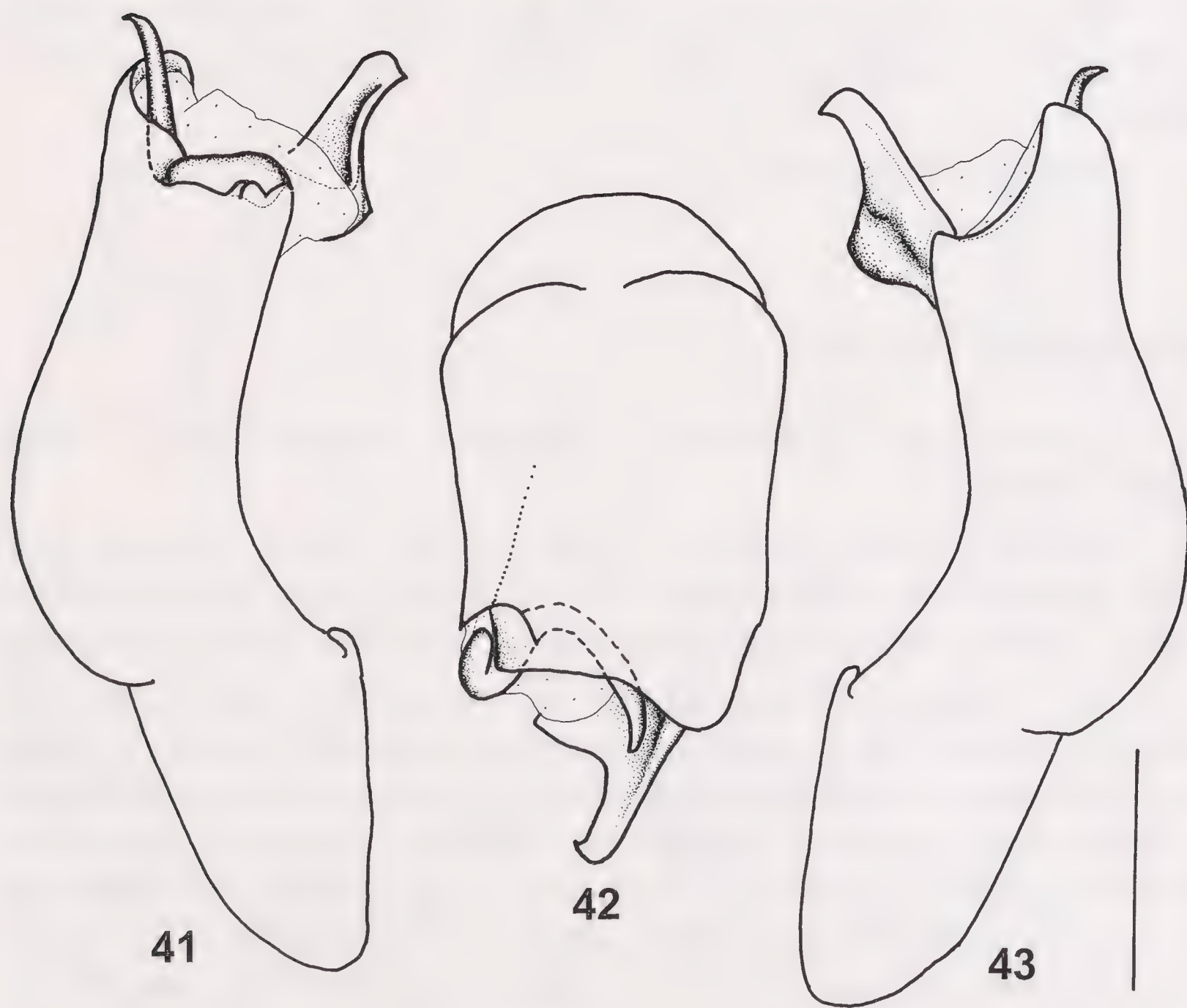
Type material: Holotype: ♂ "Sumatra Padang 1890 E. Modigliani" (MSNG).

Length: 6.8 mm, length of elytra: 5.1 mm, width: 4.3 mm. Body oval, dark reddish brown, partly with greenish lustre, antenna yellow, dorsal surface, except shiny labroclypeus and tibia, dull and glabrous.

Labroclypeus transverse and subtrapezoidal, widest at base, lateral margins feebly curved and moderately convergent to feebly rounded anterior angles, lateral border and ocular canthus producing a blunt angle, margins moderately reflexed, anteriorly moderately sinuate medially; surface flat and shiny, with coarse and moderately dense punctures, with only a few single short hairs anteriorly; frontoclypeal suture feebly incised and weakly curved medially; smooth area in front of eye approximately twice as wide as long; ocular canthus short and moderately broad, with a few fine punctures and a terminal hair. Frons with fine and moderately dense, very superficial punc-

tures, with fine microscopic hairs in the punctures, beside eyes two single long hairs. Eyes moderately large, ratio of diameter/ interocular width: 0.67. Antenna 10-segmented; club with four segments, as long as the remaining segments together (σ). Mentum anteriorly elevated and flattened, anterior margin densely hairy.

Pronotum moderately transverse, widest at base, lateral borders feebly but uniformly curved, weakly convergent anteriorly, anterior angles strongly protruding and sharp, posterior angle strongly rounded, anterior margin medially weakly convexly produced and with fine marginal line; surface densely and finely punctate, with microscopic hairs in the punctures; anterior border glabrous, lateral border sparsely setose; hypomeron only weakly edged. Scutellum slender,



Figs. 41-43: *Microserica agraria* Brenske (Syntype: Sumatra, Pangherang-Pisang); 41, 43- aedeagus lateral view, 42- parameres dorsal view (scale: 0.5 mm).

triangular, densely and finely punctate, with microscopic hairs in the punctures, at base smooth medially .

Elytra moderately long, widest behind middle, striae weakly impressed, finely and not densely punctate, intervals flat, with fine and moderately dense punctures, punctures only microscopically hairy; epipleural edge fine, ending at strongly curved external apical angle of elytra, epipleura not densely setose, apical border membranous, covered with very short microtrichomes.

Ventral surface dull, finely and not densely punctate, sparsely hairy, metacoxal plates only laterally with a few longer hairs; each abdominal sternite with a transversal row of coarse punctures bearing long hairs between very fine and dense punctation, penultimate sternite apically with only a very narrow smooth chitinous border. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/ metacoxae: 1/ 2.0. Pygidium dull and moderately convex, finely and moderately densely punctate, without smooth midline, only beside apical margin with a few robust and long hairs.

Legs moderately slender; femora dull, mesofemur with two longitudinal rows of hairs; surface of metafemur with opaque tomentum, anteriorly sharply edged, behind anterior edge without a continuously serrated line, longitudinal rows of metafemur reduced, only finely and very sparsely punctate, posterior margin feebly convex, posterior margin neither dorsally nor ventrally serrated, dorsoapically widely produced. Metatibia moderately slender and not long, subparallel, narrowed to base, ratio of width/ length: 1/ 3.3, dorsal margin longitudinally rounded, not edged, with two groups of spines, basal one at one third, apical one at two third of metatibial length, basally only with two very short indistinct hairs; outside longitudinally convex, with moderately dense and very fine punctures, partly microscopically hairy; ventral edge with three strong spines; inside completely smooth, apex interiorly near tarsal articulation shallowly concavely truncate. Tarsal segments dorsally impunctate, ventrally with sparse, short setae; metatarsal segments ventrally completely glabrous and with a strongly serrated ridge, immediately beside it with a moderate longitudinal edge, first metatarsomer distinctly shorter than the two following segments combined and about one fourth longer than the upper tibial spur. Protibia moderately long, bidentate, external teeth small; all claws symmetrical, strongly curved and moderately long.

Aedeagus: Figs 37-40.

Notes. Female unknown. *M. nuda* n. sp. may be separated from *M. agraria* Brenske, 1898 only by the shape of the aedeagus and parameres (figs 41-43). Both are to distinguish from *M. enganoana* Brenske, 1898 by wider metafemur and shorter antennal club (in *M. enganoana* 1.2 times longer than the remaining segments combined). All mentioned species belong to an outstanding species group of *Microserica*, characterized by only weakly edged hypomeron, four segmented antennal club in male, dorsally widely produced phallobasis of aedeagus, and completely dull pygidium in female, that bear close to the apical border a few strong and long hairs. *M. nicobarenis* (Redtenbacher, 1868) is a further representative of this group.

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ABSTRACT

Type material revision of Indomalayan species of *Microserica* Brenske, 1894 resulted in following new synonymies: *M. quadripustulata* Moser, 1915 (= *M. flavopicta* Arrow, 1946, n. syn.), *M. ornata* (Nonfried, 1894) (= *M. lineola* Brenske, 1898, n. syn.), *M. compressipes* (Wiedemann, 1823) (= *M. brenskei* Reitter, 1896, n. syn. = *M. pulchella* Brenske, 1899, n. syn. = *M. leopoldiana* Balthasar, 1932, n. syn.).

New distributional data are given and five new species are described: *M. beccarii* n. sp. (from Sumatra), *M. bifasciata* n. sp. (from Sumatra), *M. lampungensis* n. sp. (from Sumatra), *M. larutensis* n. sp. (from Malacca) and *M. nuda* n. sp. (from Sumatra). Male genitalia of all new species are illustrated and discriminative characters to related taxa are discussed. The lectotypes of *M. pyrrhopoecila* Brenske and of *M. compressipes* (Wiedemann) are designated.

RIASSUNTO

La revisione del materiale tipico delle specie indomalesi del genere *Microserica* Brenske, 1894 ha permesso di stabilire le seguenti nuove sinonimie: *M. quadripustulata* Moser, 1915 (= *M. flavopicta* Arrow, 1946, n. syn.), *M. ornata* (Nonfried, 1894) (= *M. lineola* Brenske, 1898, n. syn.), *M. compressipes* (Wiedemann, 1823) (= *M. brenskei* Reitter, 1896, n. syn. = *M. pulchella* Brenske, 1899, n. syn. = *M. leopoldiana* Balthasar, 1932, n. syn.).

Si forniscono nuovi dati corologici e cinque specie sono descritte come nuove: *M. beccarii* n. sp. (Sumatra), *M. bifasciata* n. sp. (Sumatra), *M. lampungensis* n. sp. (Sumatra), *M. larutensis* n. sp. (Malacca) e *M. nuda* n. sp. (Sumatra). Per tutte le nuove specie si illustrano gli apparati genitali maschili e si evidenziano i caratteri morfologici che permettono la separazione dalle specie già note; vengono infine designati i lectotipi di *M. pyrrhopoecila* Brenske e di *M. compressipes* (Wiedemann).

